National Aeronautics and Space Administration

On-site Groundwater Cleanup

Removing the unwanted chemicals that exist in deep groundwater at the source is an important part of NASA's overall groundwater treatment effort.

Successful Cleanup at the Source

NASA's on-site groundwater treatment plant is located in the north-central section of JPL.

Since early 2005, NASA's on-site treatment plant has been cleaning up source area groundwater, which is the 8-acre by 100-foot thick area directly beneath the Jet Propulsion Laboratory.

Approximately 432 pounds of perchlorate and 12 pounds of VOCs have been removed from the source area groundwater through February 2006.

How it Works

Removing VOCs

Liquid-Phase Granular Activated Carbon (LGAC)

- Groundwater is pumped from wells.
- Water flows through very porous carbon particles that attract and accumulate VOCs.
- The used carbon is disposed of at a licensed off-site facility and new carbon is placed in the tanks.

Removing Perchlorate

Fluidized Bed Reactor (FBR)

- "Starter" bacteria (initially gathered from a food production plant) are put in the tank.
- Added food and nutrients make the bacteria multiply.
- As water flows past, the bacteria destroy the perchlorate.
- A final filtering removes bacteria from the treated water.

Benefits

Reduces highest levels of chemicals at the source area.

Helps prevent the further migration of chemicals in groundwater.

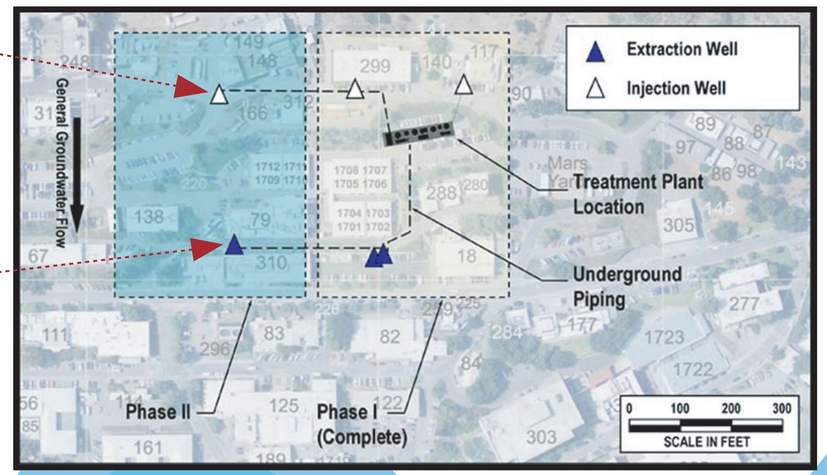
Removes chemicals at the source area, reducing the level of treatment needed at off-facility plants.

On-Site Treatment System Expansion

Expanding the on-site treatment plant is accelerating the cleanup of source area groundwater by treating 350 gallons per minute, up from 150 gallons per minute since the plant began operating in 2005.

Adding one injection well and piping to return clean water to the aquifer

Adding one extraction well and piping to bring additional groundwater to the aboveground treatment plant



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